



Replacement Sheet

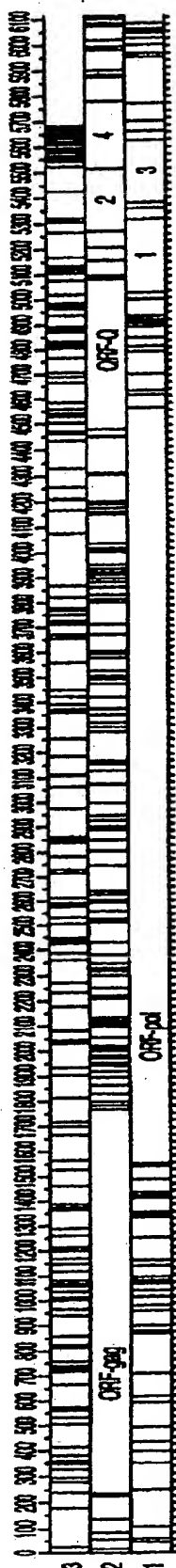


FIG. 2

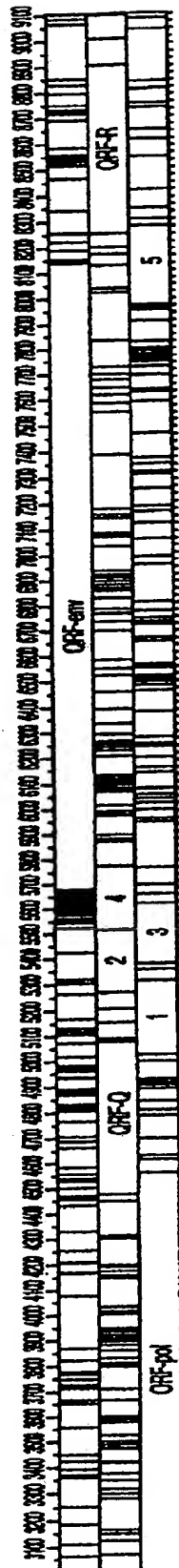


FIG. 3

FIG. 4

Replacement Sheet

PHASE 1
20RF-gag
3

K N V * P Y Q H S G H K T R T K R T L * R L C R P V L * N S K S R A S F T G G K
R M Y S P T S I L D I R Q G P K E P F R D Y V G R F Y K T L R A E Q A S Q E V K
E C I A L P A F W T * D K D O K N P L E T M * T G S I K L * E P S K L H R R * K
A A G A T G T A G C C T T C G A C A T A G C A G G A C C C T T T A G A G C C C T T A T A A C T C T T A A G A G C C C G A G C T T C A G G G T A A A
1090 1100 1110 1120 1130 1140 1150 1160 1170 1180 1190 1200

K L D D R N L V G P K C E P R L * D Y F K S I G T S S Y T R R N D D S M S G S G
N W M T E T L L V Q N A N P D C K T I L K A L G P A A T L R E E M M T A C Q G V G
I G * Q E P C W S K M R T Q I V R L F * K H W D Q O L H * K K * Q H V R E W E
A A T T G A T C A G A A C C T T G T T C A A A T G C A C C A G A T T T A G A C T A T T T A A G C A T T G G C A G C A G C A G A A T G A C A G C A G C A G T G G
1210 1220 1230 1240 1250 1260 1270 1280 1290 1300 1310 1320

R T R P * G K S F G * S N E P S N K F S Y H N D A K R O F * P P K K D C * V F O
G P G H K A R V L A E A N S O V T N S A T I M Q R G N F R N Q R K I V K C F N
D P A I K Q E P W L K Q * A K * Q I Q L P * C K E A I L G T K E R L L S V S I
A G C A C C G C C A T A G C A G C T T G G T G A C C A T G C A G C A T T A G C A T T A G C A A A G A G C A T T T A G A C C A A A G A A G A T T T A G T A G T T T C A A
1330 1340 1350 1360 1370 1380 1390 1400 1410 1420 1430 1440

START
ORF-pol
L W Q R R A M S Q K L Q G P * E K G L L E M R K G R T P N E R L Y * E T G * F P O R F-
C G K E G H I A R N C R A P R K K G C W R C G K E G H Q M K D C T E R Q A N F L * P O L
W A K K G T * P F I A G P L G K R A V G N V E R K D T K * K I V L R D R L I F *
T T G C A A A G A G C C A T A G C A A T T C A G A A G C C T T G A A T T G A A G A G C A C C A A T T A G A T T T A G C A G A C C T A T T T T
1450 1460 1470 1480 1490 1500 1510 1520 1530 1540 1550 1560

pol
R E D L A F L Q G R A R E F S E Q T R A N S P T R R E L Q V W G R D N N S L S
G K I W P S Y K Q R P G N F L Q S R P E P T A P P E S F R S G V E T T P S Q
G R S G L P T R E G O G I F F R A D O S O P H O K R A S G L G * R Q Q L P L R
A G G A A G A T C G C C T T C A G G A G C C A G G A A T T T T C A G A C A G C A C C C C C A G C A G A G A G C T T G G T G G T A G A C A C A C C C T T C A
1570 1580 1590 1600 1610 1620 1630 1640 1650 1660 1670 1680

pol
E A G A D R Q G T V S F N P P Q I T L W Q R P P L V T I K I G G Q L K E A L L D T
K Q P P I D K E L Y P L T S L R G L F G N D P S S Q * R * G G N * R K L Y * I Q
S R S R * T R N C I L * L P S D H S L A T T P R H N K D R G A T K G S S I R Y R
G A G C A G C C C A T A G A G A C T G T A T C T T A C T T C C T C A G T A C T T T G G C A G C C C C T C G C A C A T A A G A T A G G G G C A C T A A G A G A C T T A T A G A T A C A
1690 1700 1710 1720 1730 1740 1750 1760 1770 1780 1790 1800

END ORF-pol and gag PROTEIN

pol
G A D D T V L E E M S L P G K W K P K M I G G I G F I K V K Q Y D Q I L I E I
P Q M I Q Y * K K * V C Q F D C N Q K * G E L E V L S K * D S M I R Y S * R S
S * Y S I K R N E F A R K M E T K N D R G E N W R F Y Q S K T V * S D T H R N L
G G A C A G A T A C A T T A G A A T G A T T C C A G A A T G A A A A A T G A G G A T T G A G T T T A C A A G T A A G A C A G A T A G C A T A C T C A G A A A T C
1810 1820 1830 1840 1850 1860 1870 1880 1890 1900 1910 1920

pol
C G H K A I G T V L V G P T P V N I I G R N L L T Q I G C T L N F P I S P I E T
V D I K L * V Q Y * D L H L S T * L E R E I C * L R L V A L * I P P L V L L K L
W T * S V R Y S I S R T Y T C O H N W K K S V D S D W L H P K F S H * S Y * N C
T G T G A T A A G T A G G T A C A T T A T A G A G C C T C A C C T G T C A C A T A T T G A A A A T T G C A T T G T C A T T A T T T C C A T T A G T C C T A T T G A A C T
1930 1940 1950 1960 1970 1980 1990 2000 2010 2020 2030 2040

FIG. 5

Phasel 1 ORF-pol 1 V P V K L K P G M D G P K V K Q W P L T E K K I K A L V F I C T I M E K E G K I
2 Y Q * N * S Q F W M A Q K L N R G H * Q K K K * K H * * K F V Q K W K K G K F
3 T S K I K A P N G W P K S * T M A I D R R K N K S I S R N L Y R N G K G R F N F
GTACCAGTAANTTAAGCCAGGATGGCCCAAGTTAAACATGGCCATTGACACAAATAAAGCAATTGTACAGAAATGGAAGAGGAAAT
2050 2060 2070 2080 2090 2100 2110 2120 2130 2140 2150 2160
pol S K I G P E N P Y N T P V F A I K R P D S T K W R K L V D F R E L N K R T Q D F
Q K L G K K I M T I L Q Y L P * R K K T V Q L N G F N * * I S E R L I R E L K T S
* N * A * K S I Q Y S I C H K K P Q Y * M E K I S R F G P T * * E N S R L L
TCAAAATGGGGTGAANTCATCAATCACTCAGTATTGGCATTAAGAAAGACAGTACTAATCGAGAAATTTAGTAGATTTCAGAGAACTTAATAGAGAACTCAAGACTC
2170 2180 2190 2200 2210 2220 2230 2240 2250 2260 2270 2280
pol W E V Q L G I P H P A G L K K K S V T V L D V G D A Y P S V P L D E D F R K Y I
G K F N * P Y H I P Q G * K R K N Q * Q Y N M W V M H I F O F P * M K T S G S I
G S I R N T T S R R Y K K K I S N S T G C G * C I F F S S L R * R L Q E V Y
TGGAGCTTCANTAGGAATACACATCCCGAGGTTAAAGAAATCTGATACAGTACTGATGCTGATGCTCATATTTTCAGTTCCCTTAGTGAAGACTTCAGGAAT
2290 2300 2310 2320 2330 2340 2350 2360 2370 2380 2390 2400
pol T A P T I P S I N N F T P G I R V Q Y N V L P G G N K G S P A I F Q S S M T K I
L H L P H Y L V * T M R H Q G I S V T K C F H R D G K D H Q Q Y S K V A * Q K N L
C I Y H T * Y K U * D R D * I S V G G A S T G M E R I T S R I P K * H D K N L
ACTGATTTACCACTTAGTATTAACATGAGACACAGGATTAATACATATGCTTCACAGGATGAAGGATCCACAGCAATTCAAACTAGCATGACAAATC
2410 2420 2430 2440 2450 2460 2470 2480 2490 2500 2510 2520
pol L E P P R R Q N P D I V I Y Q Y M D Q L Y V C S D L F I G G H R I K I E F L R O N
* S L L E N K I G T * L S I N T W M I C H * D L T * K * G S I E G K * R S * D N
P A F * K T K S P H S Y L S I H G * F V C R I * L R N R A A * N K N R G A F T T
TTAGAGCTTTAGAAACAAATCCAGACAGTATTCATCAATACATGATGATTTGTATGAGATTCGACTTAGAATAGGGAGCATAGCAAAATAGAGGAGCTGACAA
2530 2540 2550 2560 2570 2580 2590 2600 2610 2620 2630 2640
pol H L L R W S L T T P D K K H G K S P P P I W M G Y E L H P D K W T V Q P I V L P
I C * G G D L P M Q T K N I R K N L H S F G * V M N S I L I N G Q Y S L * C C Q
S V F V G T Y H T R Q K T S I R T S I P L D G L * T P S * * M D S T A Y S A A R
CATCTGTGAGGTGGGACTTACCACAGCAAAACATCAGAAAGACTCCATCTTGTGATGCTTATGACTCCATCTGATTAATGGACATAGCAGCTATAGTCTGCCA
2650 2660 2670 2680 2690 2700 2710 2720 2730 2740 2750 2760
pol E K D S W T V N D I Q N L V G K L N W A S Q I Y P O I K V R O L O K L L R G T K
K K T A S L S M R Y R S * H E N * I G Q V R P T O G L K * G N Y V N S L E R E P K
K P O L D C I * H T D V S G K I I L G K S D L P T P D * S K A I M * T P * R N O S
GAAAAGCAGCTGCTCATGTCATGATCAGACTTAGTGGGAAATTTGAATTCAGCACTTAATAGTACCCATTAATTAATCTCTTAGAGCACTCAAA
2770 2780 2790 2800 2810 2820 2830 2840 2850 2860 2870 2880
pol A L T P V I P L T E I A P I P L A E N P I I L K E P V H G V V Y P P S K D L I A
H * Q K * Y H * O K K Q S * H H Q K T I R P * R H O V M P O I M I H O K T * * O
T N R S N T T N P R S R A R T G R R O R P S K R T S T A S V L * P I K R L N S R
GCACTAAGAGATTAATACCTAAGAGAGACAGCAGCTAGAACTCCGACGAAACGAGAGATTTCTAAAGAACCCAGTACATGGAGTGTATATGACCAATCAAGACTTAATAGCA
2890 2900 2910 2920 2930 2940 2950 2960 2970 2980 2990 3000

FIG. 6



Replacement Sheet

PHASE 1 ORF-pol 1
2
3
A A C W W A G I K Q E F G I P Y N P O S O G V V E S M N K E L K K I I G Q V R D
P P V G G S E S S R N L E F P P T I P K V K E * N L * I K N * R K L * A R * E I
R L L V G G N O A G I W N S L O S P K S R S R I Y E * R I K E N Y R P G K R S
G C C C T G T G C G G G A N T C A G C A G A T T T C C C A T C C C A G G T C A G G T T A G C C A G G T A G A G T
4090 4100 4110 4120 4130 4140 4150 4160 4170 4180 4190 4200
pol Q A F H L K T A V Q M A V F I H N F K R K G G I G G Y S A G E R I V D I I A T D
R L N I L R Q Q Y K W Q Y S S T I L K E K G G L G G T V Q G K E * T * Q O T H
G * T S * D S S T N G S I H P O P * K K R G D W G V O C R G K N S R H N S N R
C A G C T G A C A T T A G C A G C A G T T A G C A G T T A G C A G T T A G C A G T T A G C A G T T A G C A G T
4210 4220 4230 4240 4250 4260 4270 4280 4290 4300 4310 4320
pol I O T K E L Q K Q I T K I Q N F R V Y Y R D S R D P L W K G P A K L L W K G E G
Y K L K N Y K N K L Q K P X I P G P I T G T A E I H P G K D Q Q S S S G K V K G
T N * R I T K T N Y K N S K F S G L L O G O Q R S T L E R T S K A P L E R * R G
A T A C A G T T A G A G A T T A G A G A T T A G A G A T T A G A G A T T A G A G A T T A G A G A T T A G A G A T
4330 4340 4350 4360 4370 4380 4390 4400 4410 4420 4430 4440
pol A V V I Q D N S D I K V V P R R K A K I I R D Y G K Q M A G D D C V A S R Q D E R
Q * Y K I I V I * K * C Q E L K Q R S L G I M E N R W Q V M I V W Q V D R M R
S S N T R * H K S S A K K S K D H * G L W K T D G R * L C G K * T G * G
C C A G T T A T A C A G A T T A G T C A T A A A G T T G C A G A G A T T A G C A G T T A G C A G T T A G C A G T
4450 4460 4470 4480 4490 4500 4510 4520 4530 4540 4550 4560
pol D * N M E K F S K T P Y V C F R E S * G M V L * T S L * K P S S K N K P R S T H
I R T N K S L V K H M Y V S G K A R G W F Y R H H Y E S P H I S S E V Y H I
L E H G K V * N T I C M P O G K L G D G F I D I T M K A L I O E * V O K Y T S
G A T T A G C A G T T A G T T A G T T A G T T A G T T A G T T A G T T A G T T A G T T A G T T A G T T A G T T A G
4570 4580 4590 4600 4610 4620 4630 4640 4650 4660 4670 4680
Q P T R G C * I G N N N I L G S A Y R R K R L A S G S G S L H R M P E K F I * H T
P L G D A R L V I T V W G L H T G E R D W H L G Q G V S I P W R K K R Y S T Q
H * G M L D W * O H I G V C I O E K E T G I W V R E S P * N G K R D I A H K
C C A T T A G C A G T T A G T T A G T T A G T T A G T T A G T T A G T T A G T T A G T T A G T T A G T T A G T T A G
4690 4700 4710 4720 4730 4740 4750 4760 4770 4780 4790 4800
Q S R P * T S R P T N S S V L L * L F P R L C Y K K G L I R T V S * P * V * I S S
V D P E L A D Q L I H L Y Y P D C P S D S A I R K A L L G H I V S P R C E Y Q A
* T L N * D T N * F I C I T L T V F O T L L * E R P Y * D I * L A L G V N I K O
A G T A G C C T G A C T A G C A C C A C T A T T A C T G A T T A C T G A T T A C T G A T T A C T G A T T A C T G A T
4810 4820 4830 4840 4850 4860 4870 4880 4890 4900 4910 4920
Q R T * Q G R I S T I L G T S S I N N T K K D K A T F A * C Y E T D R G * M E Q A
G H N K V G S L Q V L A L A L I T P K K I K P L P S V T K L T E R D R W N K P
D I T R S D L Y H T H * O H * H C K R * S H L C L V L R N * Q R I D G T S P
A G G A T A C A G T T A G T T A C T T G C A C T T A C T T A C T T A C T T A C T T A C T T A C T T A C T T A C T T A C
4930 4940 4950 4960 4970 4980 4990 5000 5010 5020 5030 5040

FIG. 8



Replacement Sheet

ORF-env
I P I V V A G K * * W R K E R * K T A L S I S A Q A * E V R C R K N M H F F I N
Y Q * * R G N D D G E R R D K K L L F Q Y Q H K R * G A E R I C I F F L * T
T N S S G E M M E K G F I K N C S F N I S T S I R G K V O K E Y A F F Y K L
ATACCAATAGTAGCCGGAATGTCAGAGAGAGAGATTAACCTGCTTTCAATATCAGCAAGATAGAGGTAGCTGCAAGATATGCAATTTTATTAAC
6130 6140 6150 6160 6170 6180 6190 6200 6210 6220 6230 6240
L I * Y Q * I M I L P A I R * Q V V T P Q S L H P V Y Q R Y P L S Q F P Y I I V
* Y N T N R * * Y Y Q L Y T L S C N T S V I T O A C P K V S F E P I P I H Y C A
D I I P I D N D T T S C N T S V I T O A C P K V S F E P I P I H Y C A
TTGATATATACCAATAGTAGCCGGAATGTCAGAGAGAGATTAACCTGCTTTCAATATCAGCAAGATAGAGGTAGCTGCAAGATATGCAATTTTATTAAC
6250 6260 6270 6280 6290 6300 6310 6320 6330 6340 6350 6360
P R L V L R F * N V I I R R S M E Q D H V Q M S A Q Y N V H M E L G Q * V Q L N
P G W F C D S N M * * D V Q W N R T M Y K C Q H S T M Y T W N * A S S I N S T
P A G F A I L K C N N K T F N G T G P C T N V S T V Q C T H G I R P V V S T Q L
CCCCGCTGCTTTGCTTAATAGTAGCCGGAATGTCAGAGAGAGATTAACCTGCTTTCAATATCAGCAAGATAGAGGTAGCTGCAAGATATGCAATTTTATTAAC
6370 6380 6390 6400 6410 6420 6430 6440 6450 6460 6470 6480
C C * M A V * Q K K R * * L D L P I S Q T M L K P * * Y S * T N L * K L I V Q D
A V E W Q S S R R R G S N * I C Q F H R Q C * N H N S T A E P I C R N * L Y K T
L L N G S L A E E V V I R S A N P T D N A K T I I V O L N O S V E I N C T R P
TGCTTGAATGCTTACCAATAGTAGCCGGAATGTCAGAGAGAGATTAACCTGCTTTCAATATCAGCAAGATAGAGGTAGCTGCAAGATATGCAATTTTATTAAC
6490 6500 6510 6520 6530 6540 6550 6560 6570 6580 6590 6600
P T I O E K V S V S R G D Q G E H L L Q * E K * E I * D K H I V T L V E Q N G
Q O Y K K Y P Y P G G T R E S I C Y N R K N R K Y E T S T L * H * S K M E
N N T R K S I R I O R G P G R A F V T I G K I G N M R O A H C N I S R A K W N
CCACACATACAGAAAGTAGCTTCCAGAGAGAGAGATTAACCTGCTTTCAATATCAGCAAGATAGAGGTAGCTGCAAGATATGCAATTTTATTAAC
6610 6620 6630 6640 6650 6660 6670 6680 6690 6700 6710 6720
M P L * N R * L A N * E N N L E I I K Q * S L S N P O E G T Q K L * R T V L I V
C H L K T D S * Q I K R T I N K * * N N N L * A I L R G P P R N C N A Q P * L W
A T L K O I A S K L R E O F G N N K T I I F K O S S G G D P E I V T H S F N C G
ATCCACTTTAAACAGTAGTAGCCGGAATGTCAGAGAGAGATTAACCTGCTTTCAATATCAGCAAGATAGAGGTAGCTGCAAGATATGCAATTTTATTAAC
6730 6740 6750 6760 6770 6780 6790 6800 6810 6820 6830 6840
E G N F S T V I Q H N C L I V L G L I V L G V L K G Q I T L K E V T Q S H S H A
R G I F L L * P N T T V * * Y L V * * Y L E Y * R V K * H * R K * H N H T P M Q
G B F P Y C N S T O L F N S T W F N S T W S T B G S N N T E G S D T I T L P C R
GAGGGATTTTCTATTCAGACTGTTTATAGTAGCTTCCAGAGAGAGATTAACCTGCTTTCAATATCAGCAAGATAGAGGTAGCTGCAAGATATGCAATTTTATTAAC
6850 6860 6870 6880 6890 6900 6910 6920 6930 6940 6950 6960
E * N N L * T C G R K * E K Q C M P L P S A D K L D V H Q I L G C Y * Q E M V
N K T I Y K H V A G S R K S N V C P P S H Q R T M P I K Y Y R A I N K R W W
I K O F I N M W O F V G K A M Y A P I S G O I R C S S N I T G L L T R D G G
GAATPAACATTTTATTAACAGTAGTAGCCGGAATGTCAGAGAGAGATTAACCTGCTTTCAATATCAGCAAGATAGAGGTAGCTGCAAGATATGCAATTTTATTAAC
6970 6980 6990 7000 7010 7020 7030 7040 7050 7060 7070 7080
V I T T M G P R S S D L E E E I * G T I G E V N Y I N I K * * K L N H * E * H P
* * O W V R D L Q T W R R Y E G O L E K * I I * S S K N * T I R S S T H
N N N G S E I F R P G G G D M R D N W R S E L Y K Y K V V X I E P L G V A P T
GTATPAACATTTTCTGAGATCTTCAGACTGTCAGAGAGAGATTAACCTGCTTTCAATATCAGCAAGATAGAGGTAGCTGCAAGATATGCAATTTTATTAAC
7090 7100 7110 7120 7130 7140 7150 7160 7170 7180 7190 7200

FIG. 10

[illegible]

FIG. 11

Replacement Sheet



Replacement Sheet

N R G E Q E M E P V D P R L E P W K H P G S Q P K
T F E S K K W S Q * I L D * S P G S I Q E V S L
CAACAGAGGAGAGCAAGAAATGGAGCCAGTAGATCCTAGACTAGAGCCCTGGAAGCATCCAGGAAGTCAGCCTAA
5290 5300 5310 5320 5330 5340 5350

P S L F H N K S L R H L L W Q E E A E T A T K T S
Q V C F T T K A L G I S Y G R K K R R Q R R P P
K F V S Q Q K P * A S P M A G R S G D S D E D L L
CCAAGTTTGTTCACAACAAAAGCCTTAGGCATCTCCTATGGCAGGAAGAAGCGGAGACAGCGACGAAGACCTCCT
5410 5420 5430 5440 5450 5460 5470

S T C N A T Y T N S N S S I S S S N N N S N S C V
V H V M Q P I Q I A I A A L V V A I I I A I V V W
Y M * C N L Y K * Q * Q H * * * Q * * * Q * L C C
AGTACATGTAATGCAACCTATACAAATAGCAATAGCAGCATTAGTAGTAGCAATAATAATAGCAATAGTTGTGTGG
5530 5540 5550 5560 5570 5580 5590

N R Q V N * * T N R K S R R Q W Q * E * R R N I S
I D R L I D R L I E R A E D S G N E S E G E I S A
* T G * L I D * * K E Q K T V A M R V K E K Y Q H
AATAGACAGGTTAATTGATAGACTAATAGAAAGAGCAGAAGACAGTGGCAATGAGAGTGAAGGAGAAATATCAGCA
5650 5660 5670 5680 5690 5700 5710

Y * * S V V L Q K N C G S Q S I M G Y L C G R K Q
I D D L * C Y R K I V G H S L L W G T C V E G S N
L M I C S A T E K L W V T V Y Y G V P V W K E A T
TATTGATGATCTGTAGTGCTACAGAAAATTGTGGGTACAGTCTATTATGGGGTACCTGTGTGGAAGGAAGCCAAC
5770 5780 5790 5800 5810 5820 5830

R Y I M F G P H M P V Y P Q T P T H K K * Y W * M
G T * C L G H T C L C T H R P Q P T R S S I G K C
V H N V W A T H A C V P T D P N P Q E V V L V N V
AGGTACATAATGTTTGGGCCACACATGCCTGTGTACCCACAGACCCCAACCCACAAGAAGTAGTATTGGTAAATGT
5890 5900 5910 5920 5930 5940 5950

C M R I * S V Y G I K A * S H V * N * P H S V L V
A * G Y N Q F M G S K P K A M C K I N P T L C * F
H E D I I S L W D Q S L K P C V K L T P L C V S L
TGCATGAGGATATAATCAGTTTATGGGATCAAAGCCTAAAGCCATGTCTAAAATTAACCCCACTCTGTGTAGTTT
6010 6020 6030 6040 6050 6060 6070

I P I V V A G K * * W R K E R * K T A L S I S A Q
Y Q * * * R G N D D G E R R D K K L L F Q Y Q H K
T N S S S G E M M M E K G E I K N C S F N I S T S
ATACCAATAGTAGTAGCGGGGAATGATGATGGAGAAAGGAGAGATAAAAACTGCTCTTTCAATATCAGCACAAG
6130 6140 6150 6160 6170 6180 6190

L I * Y Q * I M I L P A I R * Q V V T P Q S L H R
* Y N T N R * * Y Y Q L Y V D K L * H L S H Y T G
D I I P I D N D T T S Y T L T S C N T S V I T Q A
TTGATATAATACCAATAGATAATGATACTACCAGCTATACGTTACAAGTTGTAACACCTCAGTCATTACACAGG
6250 6260 6270 6280 6290 6300 6310

P R L V L R P * N V I I R R S M E Q D H V Q M S A

FIG. 13



Replacement Sheet

P G S Q P K T A C I T C Y C K K C C F H C
Q E V S L K L L V P L A I V K S V A F I A
CAGGAAGTCAGCCTAAACTGCTTGTACCACTTGCTATTGTAAAAAGTGTGCTTTTCATTG
5350 5360 5370 5380 5390 5400

A T K T S S R Q S D S S S F S I K A V S
Q R R R P P Q G S Q T H Q V S L S K Q * V
S D E D L L K A V R L I K F L Y Q S S K *
AGCGACGAAGACCTCCTCAAGGCAGTCAGACTCATCAAGTTTCTCTATCAAAGCAGTAAGT
5470 5480 5490 5500 5510 5520

S N S C V V H S N H R I * E N I K T K K
I A I V V W S I V I I E Y R K I L R Q R K
* Q * L C G P * * S * N I G K Y * D K E K
TAGCAATAGTTGTGTGGTCCATAGTAATCATAGAATATAGGAAAATATTAAGACAAAGAAA
5590 5600 5610 5620 5630 5640

R R N I S T C G D G G G N G A P C S L G
G E I S A L V E M G V E M G H H A P W D
K E K Y Q H L W R W G W K W G T M L L G I
AAGGAGAAATATCAGCACTTGTGGAGATGGGGGTGGAATGGGGCACCATGCTCCTTGGGA
5710 5720 5730 5740 5750 5760

C G P K Q P P L Y F V H Q M L K H M I Q
V E G S N H H S I L C I R C * S I * Y R
V W K E A T T T L F C A S D A K A Y D T E
TGTGGAAGGAAGCAACCACCACTCTATTTTGTGCATCAGATGCTAAAGCATATGATACAG
5830 5840 5850 5860 5870 5880

* Y W * M * Q K I L T C G K M T W * N R
S I G K C D R K F * H V E K * H G R T D
V V L V N V T E N F N M W K N D M V E Q M
TAGTATTGGTAAATGTGACAGAAAATTTTAACATGTGGAAAATGACATGGTAGAACAGA
5950 5960 5970 5980 5990 6000

H S V L V * S A L I W G M L L I P I V V
T L C * F K V H * F G E C Y * Y Q * *
P L C V S L K C T D L G N A T N T N S S N
CACTCTGTGTTAGTTTAAAGTGCAGTATTGGGGAATGCTACTAATAACCAATAGTAGTA
6070 6080 6090 6100 6110 6120

S I S A Q A * E V R C R K N M H F F I N
Q Y O H K H K R * G A E R I C I F L * T
F N I S T S I R G K V Q K E Y A F F Y K L
TCAATATCAGCACAAGCATAAGAGGTAAGGTGCAGAAAGAATATGCATTTTTTTTATAAAC
6190 6200 6210 6220 6230 6240

Q S L H R P V Q R Y P L S Q F P Y I I V
S H Y T G L S K G I L * A N S H T L L C
S V I T Q A C P K V S F E P I P I H Y C A
CAGTCATTACACAGGCCTGTCCAAAGGTATCCTTTGAGCCAATTCCCATACATTATTGTG
6310 6320 6330 6340 6350 6360

V Q M S A Q Y N V H M E L G Q * Y Q L N

FIG. 14



Replacement Sheet

P C W F C D S K M * * * D V Q W N R T M Y K C O
P A G F A I L R C N N K T F N G T G P C T N V S
CCCCGGCTGGTTTTGCGATTCTAAAATGTAATAATAAGACGTTCAATGGAACAGGACCATGTACAAATGTCAGC
6370 6380 6390 6400 6410 6420 6430

C C * M A V * Q K K R * * L D L P I S Q T M L K P
A V E W O S S R R R G S N * I C O F H R Q C * N H
L L N G S L A E E E V V I R S A N F T D N A K T
TGCTGTTGAATGGCAGTCTAGCAGAAGAAGAGGTAGTAATTAGATCTGCCAATTTACAGACAATGCTAAACCA
6490 6500 6510 6520 6530 6540 6550

P T T I Q E K V S V S R G D Q G E H L L Q * E K *
Q Q Q Y K K K Y P Y P E G T R E S I C Y N R K N R
N N N T R K S I R I O R G P G R A F V T I G K I
CCAACAACAATACAAGAAAAAGTATCCGTATCCAGAGGGGACCAGGGAGAGCATTGTGTTACAATAGGAAAAATAG
6610 6620 6630 6640 6650 6660 6670

M P L * N R * L A N * E N N L E I I K Q * S L S N
C H F K T D S * Q I K R T I W K * * N N N L * A I
A T L K Q I A S K L R E Q P G N N K I I I F K Q
ATGCCACTTTAAACAGATAGCTAGCAAATTAAGAGAACAATTTGGAATAATAAAACAATAATCTTTAAGCAA
6730 6740 6750 6760 6770 6780 6790

E G N F S T V I Q H N C L I V L G L I V L G V L K
R G I F L L * E N T T V * * Y L V * * Y L E Y * R
G E F F Y C N S T Q L F N S T W F N S T W S T E
GAGGGGAATTTTTCTACTGTAATTCACACAACCTGTTTAATAGTACTTGGTTTAATAGTACTTGGAGTACTGAAG
6850 6860 6870 6880 6890 6900 6910

E * N N L * T C G R K * E K Q C M P L P S A D K L
N K T I Y K H V A G S R K S N V C P S H Q R T N *
I K Q F I N M W Q E V G K A M Y A P P I S G Q I
GAATAAACAATTTATAAACATGTGGCAGGAAGTAGGAAAAGCAATGTATGCCCTCCCATCAGCGGACAAATTA
6970 6980 6990 7000 7010 7020 7030

V I T T M G P R S S D L E E E I * G T I G E V N Y
* * Q O W V R D L Q T W R R R Y E G Q L E K * I I
N N N N G S E I F R P G G G D M R D N W R S E L
GTAATAACAACAATGGGTCCGAGATCTTCAGACCTGGAGGAGGAGATATGAGGGACAATTGGAGAAGTGAATTAT
7090 7100 7110 7120 7130 7140 7150

P R Q R E E W C R E K K E Q W E * E L C S L G S W
Q G K E K S G A E R K K S S G N R S F V P W V L G
K A K R R V V Q R E K R A V G I G A L F L G F L
CCAAGGCAAGAGAAGAGTGGTGCAGAGAGAAAAAGAGCAGTGGGAATAGGAGCTTTGTTCCTTGGGTCTCTGG
7210 7220 7230 7240 7250 7260 7270

Y R P D N Y C L V * C S S R T I C * G L L R R N S
T G Q T I I V W Y S A A A E Q F A E G Y * G A T A
Q A R Q L L S G I V Q Q Q N N L L R A I E A Q Q
TACAGGCCAGACAATTATTGTCTGTTAGTGCAGCAGCAACAATTTGCTGAGGGCTATTGAGGCCAACAGC
7330 7340 7350 7360 7370 7380 7390

E S W L W K D T * R I N S S W G F G V A L E N S F

FIG.15



Replacement Sheet

N R T M Y K C O H S T M Y T W N * N S S I N S T
[T] G P C T [N V S] T V Q C T H G I R P V V S T Q L
AACAGGACCATGTACAAATGTCAGCACAGTACAATGTACACATGGAATTAGGCCAGTAGTATCAACTCAAC
6420 6430 6440 6450 6460 6470 6480

P I S Q T M L K P * * Y S * T N L * K L I V Q D
O F H R Q C * N H N S T A E P I C R N * L Y K T
[N F T] D N A K T I I V Q L [N O S] V E I [N C T] R P
CAATTTACAGACAATGCTAAAACCATAATAGTACAGCTGAACCAATCTGTAGAAATTAATTGTACAAGAC
6540 6550 6560 6570 6580 6590 6600

F H L L Q * E K * E I * D K H I V T L V E Q N G
S I C Y N R K N R K Y E T S T K * H * * S K M E
A F V T I G K I G N M R Q A H C [N I S] R A K W [N]
AGCATTTGTTACAATAGGAAAATAGGAAATATGAGACAAGCACATTGTAACATTAGTAGAGCAAATGGA
6660 6670 6680 6690 6700 6710 6720

I I K Q * S L S N P Q E G T Q K L * R T V L I V
* * N N N L * A I L R R G P R N C N A Q F * L W
[N K I] I I F K Q S S G G D P E I V T H S F N C G
TAATAAACAAATAATCTTTAAGCAATCCTCAGAGGGGACCCAGAAATTGTAACGCACAGTTTAAATTGTG
6780 6790 6800 6810 6820 6830 6840

C L I V L G V L K G Q I T L K E V T Q S H S H A
V * * Y L E Y * R V K * H * R K * H N H T P M Q
P [N S T] W S T E G S [N N T] E G S D T I T L P C R
TTTTAATAGTACTTGGAGTACTGAAGGGTCAAATAACACTGAAGGAAGTGACACAATCACACTCCCATGCA
6900 6910 6920 6930 6940 6950 6960

M P L P S A D K L D V H Q I L Q G C Y * Q E M V
C P S H Q R T N * M F I K Y Y R A A I N K R W W
A P P I S G Q I R C S S [N I T] G L L L T R D G G
TGCCCCCTCCCATCAGCGGACAAATTAGATGTTTCATCAAATATTACAGGGCTGCTATTAAACAAGAGATGGTG
7020 7030 7040 7050 7060 7070 7080

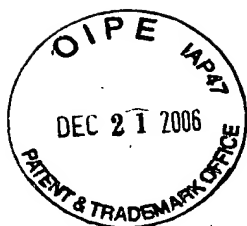
* G T I G E V N Y I N I K * * K L N H * E * H P
E G Q L E K * I I * I * S S K N * T I R S S T H
R D N W R S E L Y K Y K V V K I E P L G V A P T
GAGGGACAATTGGAGAAGTGAATTATATAAATATAAAGTAGTAAAAATTGAACCATTAGGAGTAGACCCCA
7140 7150 7160 7170 7180 7190 7200

* E L C S L G S W E Q Q E A L W A H G Q * R * R
R S F V P W V L G S S R K H Y G R T V N D A D G
G A L F L G F L G A A G S T M G A R S M T L T V
AGGAGCTTTGTTCTTGGGTTCTTGGGAGCAGCAGGAAGCACTATGGGCGCACGGTCAATGACGCTGACCG
7260 7270 7280 7290 7300 7310 7320

C * G L L R R N S I C C N S Q S G A S S S S R Q
A E G Y * G A T A S V A T H S L G H Q A A P G K
L R A I E A Q Q H L L Q L T V W G I K Q L Q A R
GCTGAGGGCTATTGAGGCGCAACAGCATCTGTTGCAACTCACAGTCTGGGGCATCAAGCAGCTCCAGGCAA
7380 7390 7400 7410 7420 7430 7440

G V A L E N S F A P L L C L G M L V G V I N L

FIG. 16



Replacement Sheet

N P G C G K I P K G S T A P G D L G L L W K T H
I L A V E R Y L K D Q Q L L G I W G C S G K L I
GAATCCTGGCTGTGGAAAGATACCTAAAGGATCAACAGCTCCTGGGGATTGGGGTGTCTCTGGAAACTCATI
7450 7460 7470 7480 7490 7500 7510

W N R F G I T * P G W S G T E K L T I T Q A * Y I
G T D L E * H D L D G V G Q R N * Q L H K L N T
E Q I W N N M T W M E W D R E I N N Y T S L I H
TGGAACAGATTGGGAATAACATGACCTGGATGGAGTGGGACAGAGAAATTAACAATTACACAAGCTTAATACAT
7570 7580 7590 7600 7610 7620 7630

N Y W N * I N G Q V C S I G L T * Q I G C G I * K
I I G I R * M G K F V E L V * H N K L A V V Y K
L L E L D K W A S L W N W F N I T N W L W Y I K
AATTATTGGAATTAGATAAATGGGCAAGTTTGTGGAATTGGTTTAAACATAACAAATTGGCTGTGGTATATAAAA
7690 7700 7710 7720 7730 7740 7750

L L Y F L * * I E L G R D I H H Y R F R P T S Q P
C C T F Y S E * S * A G I F T I I V S D P P P N
A V L S I V N R V R Q G Y S P L S F Q T H L P T
TTGCTGTACTTTCTATAGTGAATAGAGTTAGGCAGGGATATTCACCATTATCGTTTCAGACCCACCTCCCAACC
7810 7820 7830 7840 7850 7860 7870

R E T E T D P F D * * T D P * H L S G T I C G A L
E R Q R Q I H S I S E R I L S T Y L G R S A E P
R D R D R S I R L V N G S L A L I W D D L R S L
AGAGAGACAGACAGATCCATTTCGATTAGTGAACGGATCCTTAGCACTTATCTGGGACGATCTGCGGAGCCTT
7930 7940 7950 7960 7970 7980 7990

T R I V E L L G R R G W E A L K Y W W N L L Q Y W
R G L W N F W D A G G G K P S N I G G I S Y S I
E D C G T S G T Q G V G S P Q I L V E S P T V L
ACGAGGATTGTGGAACCTCTGGGACGCAGGGGGTGGGAAGCCCTCAAATATTGGTGAATCTCCTACAGTATTC
8050 8060 8070 8080 8090 8100 8110

A I A V A E G T D R V I E V V Q G A C R A I R H I
P * Q * L R G Q I G L * K * Y K E L V E L F A T
H S S S * G D R * G Y R S S T R S L * S Y S P H
GCCATAGCACTAGCTGAGGGGACAGATAGGGTTATAGAAGTAGTACAAGGAGCTTGTAGAGCTATTGCGCCACAT
8170 8180 8190 8200 8210 8220 8230

G W Q V V K K * C G W M A Y C K G K N E T S * A S
G G K W S K S S V V G W P T V R E R M R R A E P
V A S G Q K V V W L D G L L * G K E * D E L S Q
GGGTGGCAAGTGGTCAAAAAGTAGTGTGGTTGGATGGCCTACTGTAAGGGAAAGAATGAGACGAGCTGAGCCAG
8290 8300 8310 8320 8330 8340 8350

S N H K * Q Y S S Y Q C C L C L A R S T R G G G G
A I T S S N T A A T N A A C A W L F A Q E E E E
Q S Q V A I Q Q L P M L L V P G * K H K R R R R
AGCAATCACAAGTAGCAATACAGCAGCTACCAATGCTGCTTGTGCCTGGCTAGAAGCACAAGAGGAGGAGGAGG
8410 8420 8430 8440 8450 8460 8470

D G S C R S * P L F K R K G G T G R A N S L P I K

FIG. 17



Replacement Sheet

W K T H L H H C C A L E C * L E * * I S
G K L I C T T A V P W N A S W S N K S L
CTGGAAACTCATTGCACTGCTGTGCTTGAATGCTAGTTGGAGTAATAAATCTC
7510 7520 7530 7540 7550 7560

Q A * Y I P * L K N R K T S K K R M N K
K L N T F L N * R I A K P A R K E * T R
S L I H S L I E E S O N Q Q E K N E Q E
CAAGCTTAATACATTCCTTAATTGAAGAATCGCAAACCAGCAAGAAAAGAATGAACAAG
7630 7640 7650 7660 7670 7680

C G I * K Y S * * * * E A W * V * E * F
V V Y K N I H N D S R R L G R F K N S F
W Y I K I F I M I V G G L V G L R I V F
TGTGGTATATAAAAATATTCATAATGATAGTAGGAGGCTTGGTAGGTTAAGAATAGTTT
7750 7760 7770 7780 7790 7800

P T S Q P R G D P T G P K E * K K K V E
P P P N P E G T R Q A R R N R R R R W R
H L P T P R G P D R P E G I E E E G G E
CCACCTCCCAACCCCGAGGGGACCCGACAGGCCCGAAGGAATAGAAGAAGGTGGAG
7870 7880 7890 7900 7910 7920

I C G A L C L F S Y H R L R D L L L I V
S A E P C A S S A T T A * E T Y S * L *
L R S L V P L Q L P P L E R L T L D C N
TCTGCGGAGCCTTGTGCCTCTTCAGCTACCACCGCTTGAGAGACTTACTCTTGATTGTA
7990 8000 8010 8020 8030 8040

L L Q Y W S Q E L K N S A V S L L N A T
S Y S I G V R N * R I V L L A C S M P Q
P T V L E S G T K E * C C * L A Q C H S
TCCTACAGTATTGGAGTCAGGAATAAGAAATAGTGCTGTTAGCTTGCTCAATGCCACA
8110 8120 8130 8140 8150 8160

A I R H I P R R I R Q G L E R I L L * D
L F A T Y L E E * D R A W K G F C Y K M
Y S P H T * K N K T G L G K D F A I R W
CTATTGCCACATACCTAGAAGAATAAGACAGGGCTTGGAAAGGATTTTGCTATAAGAT
8230 8240 8250 8260 8270 8280

T S * A S S R W G G S S I S R P G K T W
R A E P A A D G V G A A S R D L E K H G
E L S Q Q Q M G W E Q H L E T W K N M E
CGAGCTGAGCCAGCAGATGGGGTGGGAGCAGCATCTCGAGACCTGGAAAACATGG
8350 8360 8370 8380 8390 8400

Q G G G G G F S S H T S G T F K T N D L
E E E E V G F P V T P Q V P L R P M T Y
R R R R W V F Q S H L R Y L * D Q * L T
GAGGAGGAGGAGGTGGGTTCCAGTCACACCTCAGGTACCTTTAAGACCAATGACTTA
8470 8480 8490 8500 8510 8520

L P T K T R Y P * S V D L P H T R L L

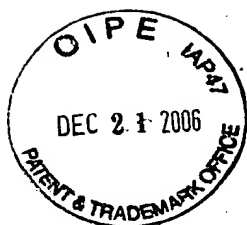
FIG. 18



Replacement Sheet

10	20	30	40	50	60
AAGCTTGCTT	TGAGTGCTTC	AAGTAGTGTG	TGCCCCGTCTG	TTGTGTGACT	CTGGTAACTA
70	80	90	100	110	120
GAGATCCCTC	AGACCCTTTT	AGTCAGTGTG	GAAAATCTCT	AGCAGTGGCG	CCCGAACAGG
130	140	150	160	170	180
GACTTGAAAG	CGAAAGGGAA	ACCAGAGGAG	CTCTCTCGAC	GCAGGACTCG	GCTTGCTGAA
190	200	210	220	230	240
GCGCGCACGG	CAAGAGGCCA	GGGGAGGCCA	CTGGTGAGTA	CGCCAAAAAT	TTTGACTAGC
250	260	270	280	290	300
GGAGGCTAGA	AGGAGAGAGA	TGGGTGCGAG	AGCGTCAGTA	TTAAGCGGGG	GAGAATTAGA
310	320	330	340	350	360
TCGATCGGAA	AAAATTCGGT	TAAGGCCAGG	GGCAAAGAAA	AAATATAAAT	TAAAACATAT
370	380	390	400	410	420
AGTATGGGCA	AGCAGGGAGC	TAGAACGATT	CGCTGTTAAT	CCTGGCCTGT	TAGAAACATC
430	440	450	460	470	480
AGAAGGCTGT	AGACAAATAC	TGGGACAGCT	ACAACCATCC	CTTCAGACAG	GATCAGAAGA
490	500	510	520	530	540
ACTTAGATCA	TTATATAATA	CAGTAGCAAC	CCTCTATTGT	GTGCATCAAA	GGATAGAGAT
550	560	570	580	590	600
AAAAGACACC	AAGGAAGCTT	TAGACAAGAT	AGAGGAAGAG	CAAAACAAAA	GTAAGAAAAA
610	620	630	640	650	660
AGCACAGCAA	GCAGCAGCTG	ACACAGGACA	CAGCAGCCAG	GTCAGCCAAA	ATTACCCTAT
670	680	690	700	710	720
AGTGCAGAAC	ATCCAGGGGC	AAATGGTACA	TCAGGCCATA	TCACCTAGAA	CTTTAAATGC
730	740	750	760	770	780
ATGGGTAAAA	GTAGTAGAAG	AGAAGGCTTT	CAGCCCAGAA	GTGATACCCA	TGTTTTTCAGC
790	800	810	820	830	840
ATTATCAGAA	GGAGCCACCC	CACAAGATTT	AAACACCATG	CTAAACACAG	TGGGGGGACA
850	860	870	880	890	900
TCAAGCAGCC	ATGCAAATGT	TAAAAGAGAC	CATCAATGAG	GAAGCTGCAG	AATGGGATAG
910	920	930	940	950	960
AGTGCATCCA	GTGCATGCAG	GGCCTATTGC	ACCAGGCCAG	ATGAGAGAAC	CAAGGGGAAG
970	980	990	1000	1010	1020
TGACATAGCA	GGAACACTA	GTACCCTTCA	GGAACAAATA	GGATGGATGA	CAAATAATCC
1030	1040	1050	1060	1070	1080
ACCTATCCCA	GTAGGAGAAA	TTTATAAAAG	ATGGATAATC	CTGGGATTAA	ATAAAATAGT
1090	1100	1110	1120	1130	1140

FIG. 19



Replacement Sheet

AAGAATGTAT	AGCCCTACCA	GCATTCTGGA	CATAAGACAA	GGACCAAAAG	AACCCTTTAG
1150	1160	1170	1180	1190	1200
AGACTATGTA	GACCGGTTCT	ATAAACTCT	AAGAGCCGAG	CAAGCTTCAC	AGGAGGTAAA
1210	1220	1230	1240	1250	1260
AAATTGGATG	ACAGAAACCT	TGTTGGTCCA	AAATGCGAAC	CCAGATTGTA	AGACTATTTT
1270	1280	1290	1300	1310	1320
AAAAGCATTG	GGACCAGCAG	CTACACTAGA	AGAAATGATG	ACAGCATGTC	AGGGAGTGGG
1330	1340	1350	1360	1370	1380
AGGACCCGGC	CATAAGGCAA	GAGTTTTGGC	TGAAGCAATG	AGCCAAGTAA	CAAATTCAGC
1390	1400	1410	1420	1430	1440
TACCATAATG	ATGCAAAGAG	GCAATTTTAG	GAACCAAAGA	AAGATTGTGA	AGTGTTTCAA
1450	1460	1470	1480	1490	1500
TTGTGGCAAA	GAAGGGCACA	TAGCCAGAAA	TTGCAGGGCC	CCTAGGAAAA	AGGGCTGTTG
1510	1520	1530	1540	1550	1560
GAAATGTGGA	AAGGAAGGAC	ACCAAATGAA	AGATTGTACT	GAGAGACAGG	CTAATTTTTT
1570	1580	1590	1600	1610	1620
AGGGAAGATC	TGGCCTTCCT	ACAAGGGAAG	GCCAGGGAAT	TTTCTTCAGA	GCAGACCAGA
1630	1640	1650	1660	1670	1680
GCCAACAGCC	CCACCAGAAG	AGAGCTTCAG	GTCTGGGGTA	GAGACAACAA	CTCCCTCTCA
1690	1700	1710	1720	1730	1740
GAAGCAGGAG	CCGATAGACA	AGGAACTGTA	TCCTTTAACT	TCCCTCAGAT	CACTCTTTGG
1750	1760	1770	1780	1790	1800
CAACGACCCC	TCGTCACAAT	AAAGATAGGG	GGGCAACTAA	AGGAAGCTCT	ATTAGATACA
1810	1820	1830	1840	1850	1860
GGAGCAGATG	ATACAGTATT	AGAAGAAATG	AGTTTGCCAG	GAAGATGGAA	ACCAAAAATG
1870	1880	1890	1900	1910	1920
ATAGGGGGAA	TTGGAGGTTT	TATCAAAGTA	AGACAGTATG	ATCAGATACT	CATAGAAATC
1930	1940	1950	1960	1970	1980
TGTGGACATA	AAGCTATAGG	TACAGTATTA	GTAGGACCTA	CACCTGTCAA	CATAATTGGA
1990	2000	2010	2020	2030	2040
AGAAATCTGT	TGACTCAGAT	TGGTTGCACT	TTAAATTTTC	CCATTAGTCC	TATTGAAACT
2050	2060	2070	2080	2090	2100
GTACCAGTAA	AATTAAAGCC	AGGAATGGAT	GGCCCAAAAG	TTAAACAATG	GCCATTGACA
2110	2120	2130	2140	2150	2160
GAAGAAAAAA	TAAAAGCATT	AGTAGAAATT	TGTACAGAAA	TGGAAAAGGA	AGGGAAAATT
2170	2180	2190	2200	2210	2220
TCAAAAATTG	GGCCTGAAAA	TCCATACAAT	ACTCCAGTAT	TTGCCATAAA	GAAAAAAGAC
2230	2240	2250	2260	2270	2280
AGTACTAAAT	GGAGAAAATT	AGTAGATTTC	AGAGAACTTA	ATAAGAGAAC	TCAAGACTTC
2290	2300	2310	2320	2330	2340
TGGGAAGTTC	AATTAGGAAT	ACCACATCCC	GCAGGGTTAA	AAAAGAAAAA	ATCAGTAACA
2350	2360	2370	2380	2390	2400

FIG. 20



Replacement Sheet

GTACTGGATG	TGGGTGATGC	ATATTTTTC	GTTCCCTTAG	ATGAAGACTT	CAGGAAGTAT
2410	2420	2430	2440	2450	2460
ACTGCATTTA	CCATACCTAG	TATAAACAAT	GAGACACCAG	GGATTAGATA	TCAGTACAAT
2470	2480	2490	2500	2510	2520
GTGCTTCCAC	AGGGATGGAA	AGGATCACCA	GCAATATTCC	AAAGTAGCAT	GACAAAAATC
2530	2540	2550	2560	2570	2580
TTAGAGCCTT	TTAGAAAACA	AAATCCAGAC	ATAGTTATCT	ATCAATACAT	GGATGATTTG
2590	2600	2610	2620	2630	2640
TATGTAGGAT	CTGACTTAGA	AATAGGGCAG	CATAGAACAA	AAATAGAGGA	GCTGAGACAA
2650	2660	2670	2680	2690	2700
CATCTGTTGA	GGTGGGGACT	TACCACACCA	GACAAAAAAC	ATCAGAAAGA	ACCTCCATTC
2710	2720	2730	2740	2750	2760
CTTTGGATGG	GTTATGAACT	CCATCCTGAT	AAATGGACAG	TACAGCCTAT	AGTGCTGCCA
2770	2780	2790	2800	2810	2820
GAAAAAGACA	GCTGGACTGT	CAATGACATA	CAGAAGTTAG	TGGGAAAATT	GAATTGGGCA
2830	2840	2850	2860	2870	2880
AGTCAGATTT	ACCCAGGGAT	TAAAGTAAGG	CAATTATGTA	AACTCCTTAG	AGGAACCAAA
2890	2900	2910	2920	2930	2940
GCACTAACAG	AAGTAATACC	ACTAACAGAA	GAAGCAGAGC	TAGAACTGGC	AGAAAACAGA
2950	2960	2970	2980	2990	3000
GAGATTCTAA	AAGAACCAGT	ACATGGAGTG	TATTATGACC	CATCAAAAGA	CTTAATAGCA
3010	3020	3030	3040	3050	3060
GAAATACAGA	AGCAGGGGCA	AGGCCAATGG	ACATATCAAA	TTTATCAAGA	GCCATTTAAA
3070	3080	3090	3100	3110	3120
AATCTGAAAA	CAGGAAAATA	TGCAAGAACG	AGGGGTGCCC	ACACTAATGA	TGTAAAACAA
3130	3140	3150	3160	3170	3180
TTAACAGAGG	CAGTGCAAAA	AATAACCACA	GAAAGCATAG	TAATATGGGG	AAAGACTCCT
3190	3200	3210	3220	3230	3240
AAATTTAAAC	TACCCATACA	AAAGGAAACA	TGGGAAACAT	GGTGGACAGA	GTATTGGCAA
3250	3260	3270	3280	3290	3300
GCCACCTGGA	TTCTTGAGTG	GGAGTTTGTC	AATACCCCTC	CTTTAGTGAA	ATTATGGTAC
3310	3320	3330	3340	3350	3360
CAGTTAGAGA	AAGAACCCAT	AGTAGGAGCA	GAAACGTTCT	ATGTAGATGG	GGCAGCTAGC
3370	3380	3390	3400	3410	3420
AGGGAGACTA	AATTAGGAAA	AGCAGGATAT	GTTACTAATA	GAGGAAGACA	AAAAGTTGTC
3430	3440	3450	3460	3470	3480
ACCCTAACTG	ACACAACAAA	TCAGAAGACT	GAGTTACAAG	CAATTCATCT	AGCTTTGCAG
3490	3500	3510	3520	3530	3540
GATTCGGGAT	TAGAAGTAAA	TATAGTAACA	GA CTCACAAT	ATGCATTAGG	AATCATTCAA
3550	3560	3570	3580	3590	3600
GCACAACCAG	ATAAAAGTGA	ATCAGAGTTA	GTCAATCAAA	TAATAGAGCA	GTTAATAAAA
3610	3620	3630	3640	3650	3660

FIG. 21



Replacement Sheet

AAGCAAAAGG	TCTATCTGGC	ATGGGTACCA	GCACACAAAG	GAATTGGAGG	AAATGAACAA
3670	3680	3690	3700	3710	3720
GTAGATAAAT	TAGTCAGTGC	TGGAATCAGG	AAAGTACTAT	TTTGTAGATGG	AATAGATAAG
3730	3740	3750	3760	3770	3780
GCCCAAGATG	AACATGAGAA	ATATCACAGT	AATTGGAGAG	CAATGGCTAG	TGATTTTAAAC
3790	3800	3810	3820	3830	3840
CTGCCACCTG	TAGTAGCAA	AGAAATAGTA	GCCAGCTGTG	ATAAATGTCA	GCTAAAAGGA
3850	3860	3870	3880	3890	3900
GAAGCCATGC	ATGGACAAGT	AGACTGTAGT	CCAGGAATAT	GGCAACTAGA	TTGTACACAT
3910	3920	3930	3940	3950	3960
TTAGAAGGAA	AAGTTATCCT	GGTAGCAGTT	CATGTAGCCA	GTGGATATAT	AGAAGCAGAA
3970	3980	3990	4000	4010	4020
GTTATTCCAG	CAGAAACAGG	GCAGGAAACA	GCATACTTTC	TTTTAAATTT	AGCAGGAAGA
4030	4040	4050	4060	4070	4080
TGGCCAGTAA	AAACAATACA	TACAGACAAT	GGCAGCAATT	TCACCAGTAC	TACGGTTAAG
4090	4100	4110	4120	4130	4140
GCCGCCTGTT	GGTGGGCGGG	AATCAAGCAG	GAATTTGGAA	TTCCCTACAA	TCCCCAAAGT
4150	4160	4170	4180	4190	4200
CAAGGAGTAG	TAGAATCTAT	GAATAAAGAA	TTAAAGAAAA	TTATAGGCCA	GGTAAGAGAT
4210	4220	4230	4240	4250	4260
CAGGCTGAAC	ATCTTAAGAC	AGCAGTACAA	ATGGCAGTAT	TCATCCACAA	TTTTAAAAGA
4270	4280	4290	4300	4310	4320
AAAGGGGGGA	TTGGGGGGTA	CAGTGCAGGG	GAAAGAATAG	TAGACATAAT	AGCAACAGAC
4330	4340	4350	4360	4370	4380
ATACAAACTA	AAGAATTACA	AAAACAAATT	ACAAAAATTC	AAAATTTTCG	GGTTTATTAC
4390	4400	4410	4420	4430	4440
AGGGACAGCA	GAGATCCACT	TTGGAAAGGA	CCAGCAAAGC	TCCTCTGGAA	AGGTGAAGGG
4450	4460	4470	4480	4490	4500
GCAGTAGTAA	TACAAGATAA	TAGTGACATA	AAAGTAGTGC	CAAGAAGAAA	AGCAAAGATC
4510	4520	4530	4540	4550	4560
ATTAGGGATT	ATGGAAAACA	GATGGCAGGT	GATGATTGTG	TGGCAAGTAG	ACAGGATGAG
4570	4580	4590	4600	4610	4620
GATTAGAACA	TGGAAAAGTT	TAGTAAAACA	CCATATGTAT	GTTTCAGGGA	AAGCTAGGGG
4630	4640	4650	4660	4670	4680
ATGGTTTTAT	AGACATCACT	ATGAAAGCCC	TCATCCAAGA	ATAAGTTCAG	AAGTACACAT
4690	4700	4710	4720	4730	4740
CCCCTAGGG	GATGCTAGAT	TGGTAATAAC	AACATATTGG	GGTCTGCATA	CAGGAGAAAG
4750	4760	4770	4780	4790	4800
AGACTGGCAT	CTGGGTCAGG	GAGTCTCCAT	AGAATGGAGG	AAAAAGAGAT	ATAGCACACA
4810	4820	4830	4840	4850	4860
AGTAGACCCT	GAAGTAGCAG	ACCAACTAAT	TCATCTGTAT	TACTTTGACT	GTTTTTCAGA
4870	4880	4890	4900	4910	4920

FIG. 22



Replacement Sheet

CTCTGCTATA	AGAAAGGCCT	TATTAGGACA	TATAGTTAGC	CCTAGGTGTG	AATATCAAGC
4930	4940	4950	4960	2970	2980
AGGACATAAC	AAGGTAGGAT	CTCTACAATA	CTTGGCACTA	GCAGCATTAA	TAACACCAAA
4990	5000	5010	5020	5030	5040
AAAGATAAAG	CCACCTTTGC	CTAGTGTTAC	GAAACTGACA	GAGGATAGAT	GGAACAAGCC
5050	5060	5070	5080	5090	5100
CCAGAAGACC	AAGGGCCACA	GAGGGAGCCA	CACAATGAAT	GGACACTAGA	GCTTTTAGAG
5110	5120	5130	5140	5150	5160
GAGCTTAAGA	ATGAAGCTGT	TAGACATTTT	CCTAGGATTT	GGCTCCATGG	CTTAGGGCAA
5170	5180	5190	5200	5210	5220
CATATCTATG	AAACTTATGG	GGATACTTGG	GCAGGAGTGG	AAGCCATAAT	AAGAATTCTG
5230	5240	5250	5260	5270	5280
CAACAACCTGC	TGTTTATCCA	TTTCAGAATT	GGGTGTCGAC	ATAGCAGAAT	AGGCGTTACT
5290	5300	5310	5320	5330	5340
CAACAGAGGA	GAGCAAGAAA	TGGAGCCAGT	AGATCCTAGA	CTAGAGCCCT	GGAAGCATCC
5350	5360	5370	5380	5390	5400
AGGAAGTCAG	CCTAAACTG	CTTGTACCAC	TTGCTATTGT	AAAAAGTGTT	GCTTTCATTG
5410	5420	5430	5440	5450	5460
CCAAGTTTGT	TTCACAACAA	AAGCCTTAGG	CATCTCCTAT	GGCAGGAAGA	AGCGGAGACA
5470	5480	5490	5500	5510	5520
CGGACGAAGA	CCTCCTCAAG	GCAGTCAGAC	TCATCAAGTT	TCTCTATCAA	AGCAGTAAGT
5530	5540	5550	5560	5570	5580
AGTACATGTA	ATGCAACCTA	TACAAATAGC	AATAGCAGCA	TTAGTAGTAG	CAATAATAAT
5590	5600	5610	5620	5630	5640
AGCAATAGTT	GTGTGGTCCA	TAGTAATCAT	AGAATATAGG	AAAATATTAA	GACAAAGAAA
5650	5660	5670	5680	5690	5700
AATAGACAGG	TTAATTGATA	GACTAATAGA	AAGAGCAGAA	GACAGTGGCA	ATGAGAGTGA
5710	5720	5730	5740	5750	5760
AGGAGAAATA	TCAGCACTTG	TGGAGATGGG	GGTGGAAATG	GGGCACCATG	CTCCTTGGGA
5770	5780	5790	5800	5810	5820
TATTGATGAT	CTGTAGTGCT	ACAGAAAAAT	TGTGGGTCAC	AGTCTATTAT	GGGGTACCTG
5830	5840	5850	5860	5870	5880
TGTGGAAGGA	AGCAACCACC	ACTCTATTTT	GTGCATCAGA	TGCTAAAGCA	TATGATACAG
5890	5900	5910	5920	5930	5940
AGGTACATAA	TGTTTGGGCC	ACACATGCCT	GTGTACCCAC	AGACCCCAAC	CCACAAGAAG
5950	5960	5970	5980	5990	6000
TAGTATTGGT	AAATGTGACA	GAAAATTTTA	ACATGTGGAA	AAATGACATG	GTAGAACAGA
6010	6020	6030	6040	6050	6060
TGCATGAGGA	TATAATCAGT	TTATGGGATC	AAAGCCTAAA	GCCATGTGTA	AAATTAACCC
6070	6080	6090	6100	6110	6120
CACTCTGTGT	TAGTTTAAAG	TGCACTGATT	TGGGGAATGC	TACTAATACC	AATAGTAGTA
6130	6140	6150	6160	6170	6180

FIG. 23



Replacement Sheet

ATACCAATAG	TAGTAGCGGG	GAAATGATGA	TGGAGAAAGG	AGAGATAAAA	AACTGCTCTT
6190	6200	6210	6220	6230	6240
TCAATATCAG	CACAAGCATA	AGAGGTAAGG	TGCAGAAAGA	ATATGCATTT	TTTTATAAAC
6250	6260	6270	6280	6290	6300
TTGATATAAT	ACCAATAGAT	AATGATACTA	CCAGCTATAC	GTTGACAAGT	TGTAACACCT
6310	6320	6330	6340	6350	6360
CAGTCATTAC	ACAGGCCTGT	CCAAAGGTAT	CCTTTGAGCC	AATTCCCATA	CATTATTGTG
6370	6380	6390	6400	6410	6420
CCCCGGCTGG	TTTTGCGATT	CTAAAATGTA	ATAATAAGAC	GTTCAATGGA	ACAGGACCAT
6430	6440	6450	6460	6470	6480
GTACAAATGT	CAGCACAGTA	CAATGTACAC	ATGGAATTAG	GCCAGTAGTA	TCAACTCAAC
6490	6500	6510	6520	6530	6540
TGCTGTTGAA	TGGCAGTCTA	GCAGAAGAAG	AGGTAGTAAT	TAGATCTGCC	AATTTTCACAG
6550	6560	6570	6580	6590	6600
ACAATGCTAA	AACCATAATA	GTACAGCTGA	ACCAATCTGT	AGAAATTAAT	TGTACAAGAC
6610	6620	6630	6640	6650	6660
CCAACAACAA	TACAAGAAAA	AGTATCCGTA	TCCAGAGGGG	ACCAGGGAGA	GCATTTGTTA
6670	6680	6690	6700	6710	6720
CAATAGGAAA	AATAGGAAAT	ATGAGACAAG	CACATTGTAA	CATTAGTAGA	GCAAAATGGA
6730	6740	6750	6760	6770	6780
ATGCCACTTT	AAAACAGATA	GCTAGCAAAT	TAAGAGAACA	ATTTGGAAAT	AATAAAACAA
6790	6800	6810	6820	6830	6840
TAATCTTTAA	GCAATCCTCA	GGAGGGGACC	CAGAAATTGT	AACGCACAGT	TTTAATTGTG
6850	6860	6870	6880	6890	6900
GAGGGGAATT	TTTCTACTGT	AATTCAACAC	AACTGTTTAA	TAGTACTTGG	TTTAATAGTA
6910	6920	6930	6940	6950	6960
CTTGAGGTAC	TGAAGGGTCA	AATAACACTG	AAGGAAGTGA	CACAATCACA	CTCCCATGCA
6970	6980	6990	7000	7010	7020
GAATAAAACA	ATTTATAAAC	ATGTGGCAGG	AAGTAGGAAA	AGCAATGTAT	GCCCCCTCCCA
7030	7040	7050	7060	7070	7080
TCAGCGGACA	AATTAGATGT	TCATCAAATA	TTACAGGGCT	GCTATTAAAC	AGAGATGGTG
7090	7100	7110	7120	7130	7140
GTAATAACAA	CAATGGGTCC	GAGATCTTCA	GACCTGGAGG	AGGAGATATG	AGGGACAATT
7150	7160	7170	7180	7190	7200
GGAGAAGTGA	ATTATATAAA	TATAAAGTAG	TAAAAATTGA	ACCATTAGGA	GTAGCACCCA
7210	7220	7230	7240	7250	7260
CCAAGGCAAA	GAGAAGAGTG	GTGCAGAGAG	AAAAAAGAGC	AGTGGGAATA	GGAGCTTTGT
7270	7280	7290	7300	7310	7320
TCCTTGGGTT	CTTGGGAGCA	GCAGGAAGCA	CTATGGGCGC	ACGGTCAATG	ACGCTGACGG
7330	7340	7350	7360	7370	7380
TACAGGCCAG	ACAATTATTG	TCTGGTATAG	TGCAGCAGCA	GAACAATTTG	CTGAGGGCTA
7390	7400	7410	7420	7430	7440

FIG. 24



Replacement Sheet

TTGAGGCGCA	ACAGCATCTG	TTGCAACTCA	CAGTCTGGGG	CATCAAGCAG	CTCCAGGCAA
7450	7460	7470	7480	7490	7500
GAATCCTGGC	TGTGGAAAGA	TACCTAAAGG	ATCAACAGCT	CCTGGGGATT	TGGGGTTGCT
7510	7520	7530	7540	7550	7560
CTGGAAAAC	CATTTGCACC	ACTGCTGTGC	CTTGGGAATGC	TAGTTGGAGT	AATAAATCTC
7570	7580	7590	7600	7610	7620
TGGAACAGAT	TTGGAATAAC	ATGACCTGGA	TGGAGTGGGA	CAGAGAAATT	AACAATTACA
7630	7640	7650	7660	7670	7680
CAAGCTTAAT	ACATTCCTTA	ATTGAAGAAT	CGCAAAACCA	GCAAGAAAAG	AATGAACAAG
7690	7700	7710	7720	7730	7740
AATTATTGGA	ATTAGATAAA	TGGGCAAGTT	TGTGGAATTG	GTTTAACATA	ACAAATTGGC
7750	7760	7770	7780	7790	7800
TGTGGTATAT	AAAAATATTC	ATAATGATAG	TAGGAGGCTT	GCTAGGTTTA	AGAATAGTTT
7810	7800	7810	7820	7830	7840
TTGCTGTACT	TTCTATAGTG	AATAGAGTTA	GGCAGGGATA	TTCACCATTA	TCGTTTCAGA
7870	7880	7890	7900	7910	7920
CCCACCTCCC	AACCCCGAGG	GGACCCGACA	GGCCCGAAGG	AATAGAAGAA	GAAGGTGGAG
7930	7940	7950	7960	7970	7980
AGAGAGACAG	AGACAGATCC	ATTCGATTAG	TGAACGGATC	CTTAGCACTT	ATCTGGGACG
7990	8000	8010	8020	8030	8040
ATCTGCGGAG	CCTTGTGCCT	CTTCAGCTAC	CACCGCTTGA	GAGACTTACT	CTTGATTGTA
8050	8060	8070	8080	8090	8100
ACGAGGATTG	TGGAACCTCT	GGGACGCAGG	GGGTGGGAAG	CCCTCAAATA	TTGGTGGAA
8110	8120	8130	8140	8150	8160
CTCCTACAGT	ATTGGAGTCA	GGAACATAAG	AATAGTGCTG	TTAGCTTGCT	CAATGCCACA
8170	8180	8190	8200	8210	8220
GCCATAGCAG	TAGCTGAGGG	GACAGATAGG	GTTATAGAAG	TAGTACAAGG	AGCTTGTAGA
8230	8240	8250	8260	8270	8280
GCTATTCGCC	ACATACCTAG	AAGAATAAGA	CAGGGCTTGG	AAAGGATTTT	GCTATAAGAT
8290	8300	8310	8320	8330	8340
GGGTGGCAAG	TGGTCAAAAA	GTAGTGTGGT	TGGATGGCCT	ACTGTAAGGG	AAAGAATGAG
8350	8360	8370	8380	8390	8400
ACGAGCTGAG	CCAGCAGCAG	ATGGGGTGGG	AGCAGCATCT	CGAGACCTGG	AAAAACATGG
8410	8420	8430	8440	8450	8460
AGCAATCACA	AGTAGCAATA	CAGCAGCTAC	CAATGCTGCT	TGTGCCTGGC	TAGAAGCACA
8470	8480	8490	8500	8510	8520
AGAGGAGGAG	GAGGTGGGTT	TTCCAGTCAC	ACCTCAGGTA	CCTTTAAGAC	CAATGACTTA
8530	8540	8550	8560	8570	8580
CAAGGCAGCT	GTAGATCTTA	GCCACTTTTT	AAAAGAAAAG	GGGGGACTGG	AAGGGCTAAT
8590	8600	8610	8620	8630	8640
TCACTCCCAA	CGAAGACAAG	ATATCCTTGA	TCTGTGGATC	TACCACACAC	AAGGCTACTT
8650	8660	8670	8680	8690	8700

FIG. 25



Replacement Sheet

CCCTGATTGG	CAGAACTACA	CACCAGGGCC	AGGGGTCAGA	TATCCACTGA	CCTTTGGATG
8710	8720	8730	8740	8750	8760
GTGCTACAAG	CTAGTACCAG	TTGAGCCAGA	TAAGGTAGAA	GAGGCCAATA	AAGGAGAGAA
8770	8780	8790	8800	8810	8820
CACCAGCTTG	TTACACCCTG	TGAGCCTGCA	TGGAATGGAT	GACCCTGAGA	GAGAAGTGTT
8830	8840	8850	8860	8870	8880
AGAGTGGAGG	TTTGACAGCC	GCCTAGCATT	TCATCACGTG	GCCCGAGAGC	TGCATCCGGA
8890	8900	8910	8920	8930	8940
GTACTTCAAG	AACTGCTGAC	ATCGAGCTTG	CTACAAGGGA	CTTTCCGCTG	GGGACTTTCC
8950	8960	8970	8980	8990	9000
AGGGAGGCGT	GGCCTGGGCG	GAAGTGGGGA	GTGGCGAGCC	CTCAGATGCT	GCATATAAGC
9010	9020	9030	9040	9050	9060
AGCTGCTTTT	TGCCTGTACT	GGGTCTCTCT	GGTTAGACCA	GATTTGAGCC	TGGGAGCTCT
9070	9080	9090	9100	9110	9120
CTGGCTAACT	AGGGAACCCA	CTGCTTAAGC	CTCAATAAAG	CTT	

FIG. 26